Tle

UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,276	06/29/2001	Michael V. DiBiasio	112025-0478	7993

24267	7590	03/22/2006

CESARI AND MCKENNA, LLP
88 BLACK FALCON AVENUE
BOSTON, MA 02210

EXAMINER
EL CHANTI, HUSSEIN A

ART UNIT	PAPER NUMBER
2157	

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *16 February 2006*.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-31* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-31* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

Response to Amendment

1.   This action is responsive to amendment RCE received on Feb. 16, 2006. Claims

24-31 were newly added. Claims 1-31 are pending examination.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 1-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Yin,

U.S. Patent No. 5,926,458.

Yin teaches the invention explicitly as claimed including a system and method for

classifying traffic flows according to a predefined criteria (see abstract).

As to claims 1, 13, 22, 24 and 28, Yin teaches an intermediate network device for

use in a computer network having a plurality of entities configured to issue requests to

reserve network resources for use by traffic flows, the reservation requests specifying

one or more flow parameters, the intermediate network device comprising:

a traffic scheduler having one or more network resources for use in forwarding

network traffic received at the device at different rates (see col. 5 lines 15-col. 6 lines

67, server determines rate requirement);

a classification engine configured to identify network messages belonging to

respective traffic flows based upon predefined criteria (see col. 5 lines 15-col. 6 lines 67,

packets are identified in a traffic flows according to a set of rules);

a resource reservation engine in communicating relationship with the traffic

scheduler and the classification engine, the resource reservation engine including a flow

analyzer (see col. 5 lines 15-col. 6 lines 67, packets are analyzed to determine a flow

priority); and

one or more sets of predefined heuristics that are accessible by the flow

analyzer, wherein the flow analyzer applies the one or more sets of predefined

heuristics to the one is or more flow parameters specified in the reservation requests

(see col. 5 lines 15-col. 6 lines 67), and

in response to the application of the one or more sets of predefined heuristics,

the flow analyzer selects a queue and/or a queue servicing algorithm for assignment to

the traffic flow corresponding to the reservation request (see col. 5 lines 15-col. 6 lines

67, a queue is selected as a result of the determination).

As to claim 2, Yin teaches the intermediate network device of claim 1 wherein the

classification engine is directed to identify network messages belonging to the traffic

flow, and the traffic scheduler is directed to place network messages identified as

belonging to the traffic flow in the selected queue (see col. 5 lines 15-col. 6 lines 67).

As to claims 3 and 16, Yin teaches the intermediate network device and method

of claims 1 and 13 respectively wherein the selected queue is one of a priority queue

(PQ) and a reserved queue, and the PQ is drained before any other queues (see col. 5

lines 15-col. 6 lines 67).

As to claims 4, 17 and 23, Yin teaches the intermediate network device and

method of claims 3 and 14 respectively wherein a first set of heuristics is provided for

determining whether the respective traffic flows carry real-time voice information, and a

traffic flows that are determined to carry real-time voice information are assigned s to

the PQ (see col. 5 lines 15-col. 6 lines 67).

As to claim 5, Yin teaches the intermediate network device of claim 4 wherein the

flow parameters include one or more of an average data rate, a peak data rate and a

token bucket rate (see col. 5 lines 15-col. 6 lines 67).

As to claims 6 and 20, Yin teaches the intermediate network device and method

of claims 4 and 13 respectively wherein the resource reservation engine utilizes the

Resource reSerVation Protocol (RSVP) specification standard, and 4 the flow

parameters are located in a RSVP Reservation (Resv) message received s by the

device (see col. 5 lines 10-15).

As to claims 7, 19 and 21, Yin teaches the intermediate network device and

method of claims 6 and 13 wherein the flow parameters include one or more of a token

bucket rate (r) value, a token bucket size (b) value and a peak data rate (p) value (see

col. 5 lines 15-col. 6 lines 67).

As to claims 8 and 14, Yin teaches the intermediate network device and method

of claims 7 and 13 respectively wherein a first set of predefined heuristics is given by

the following equation:

$(r < r')$ AND $(b S b')$ AND $p <- p\_ to\_ r'$ where, r' is a programmable token bucket rate

constant, b' is a programmable token bucket size constant, and p-to-r' is a ratio of peak

data rate to token bucket rate constant (see col. 5 lines 15-col. 6 lines 67).

As to claims 10 and 18, Yin teaches the intermediate network device of claims 4 and 17 respectively wherein a reserved queue is selected for each traffic flow that does not satisfy the first set of heuristics, and

a Weight Fair Queuing (WFQ) queue servicing algorithm is applied to the reserved queues (see col. 5 lines 15-col. 6 lines 67).

As to claim 11, Yin teaches the intermediate network device of claim 2 wherein the flow analyzer, in response to the application of the one or more sets of heuristics, associates a selected Per-Hop Behavior (PHB) with the traffic flow corresponding to the reservation request (see col. 5 lines 15-col. 6 lines 67).

As to claim 12, Yin teaches the intermediate network device of claim 1 wherein the resource reservation engine utilizes the Resource reSerVation Protocol (RSVP) specification standard, and

a the flow parameters are located in a RSVP Reservation (Resv) message received by the device (see col. 5 lines 15-col. 6 lines 67).

As to claims 25 and 29, Yin teaches the method and router of claims 24 and 28 respectively further comprising determining whether the given traffic flow carries real-time voice information (see col. 5 lines 3-11).

As to claims 26 and 30, Yin teaches the method and router of claims 24 and 28 respectively further comprising specifying the given traffic flow carries real-time voice information (see col. 5 lines 3-11).

As to claims 27 and 31, Yin teaches the method and router of claims 24 and 28 respectively further comprising selecting a priority queue for the given traffic flow when

the one or more sets of heuristics determines the flow parameters indicate the given

traffic flow is carrying real-time voice information (see col. 5 lines 3-11).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Yin.

Yin teaches allocating bandwidth to users. Yin does not explicitly teach r' is

approximately 12288 bytes/second, b' is approximately, 592 bytes/second and p_ to-r' is

approximately 110 percent.

It would have been obvious for one of the ordinary skill in the art at the time of

the invention to use r' being approximately 12288 bytes/second, b' is approximately, 592

bytes/second and p_ to-r' is approximately 110 percent because doing so would

guarantee sufficient bandwidth to service the queue.

Response to Arguments

4.   Applicant's arguments have been fully considered but are not persuasive.

Applicant argues in substance that Yin does not disclose selecting the queue based on

reservation request, flow parameter and the set of heuristics.

In response, Yin teaches a method and system for servicing queues based on a queue service order. The queue service order is generated by the packet scheduler. The packet scheduler receives a request for queue reservation, the scheduler then determines an available bandwidth and a service interval "flow parameters" and compares the service interval to the queue or to the minimal queue service time "set of heuristics" (see col. 6 lines 6-col. 7 lines 17) and therefore Yin teaches selecting the queue based on reservation request, flow parameter and the set of heuristics.
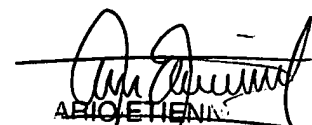
5.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hussein A. El-chanti whose telephone number is (571)272-3999. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571)272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hussein El-chanti

March 9, 2006

ARIO ETIENNE
PRIMARY EXAMINER